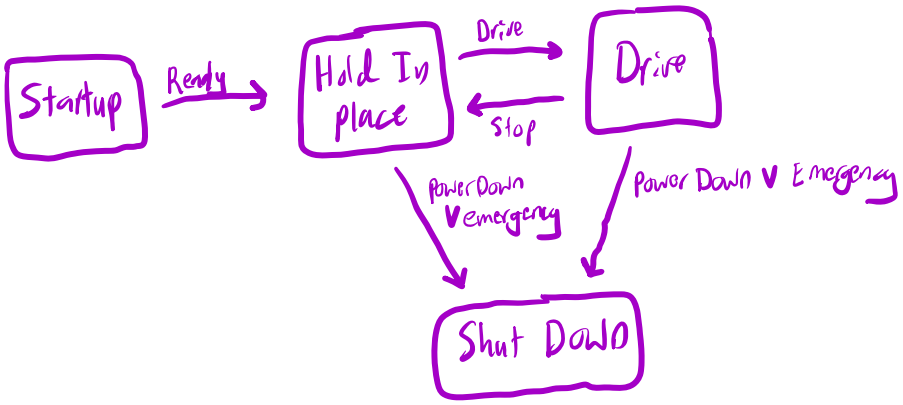
Policy Model

Input: Ready, Drive, Stop, Power Down, Emergency



Robot Model - 2D

Input: τ (control Torque)

$$\frac{d}{dt}\begin{bmatrix} x \\ \dot{x} \\ \phi \\ \dot{\phi} \end{bmatrix} = \begin{bmatrix} \dot{x} \\ (3.6\cos\phi + 0.2\dot{\phi}^2)\sin\phi \\ \dot{\phi} \\ 16.5\sin\phi \end{bmatrix} + \begin{bmatrix} 0 \\ -0.4 \\ 0 \\ 0.7 \end{bmatrix}\tau$$

Note: These numbers are for a particular size of robot and ball and are purely representative of the system's behavior.

Controller Model - LF Data-flow Chart